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ABSTRACT

A study examined whether preschool attendance has a positive effect on reading achievement of third graders. Subjects were 40 students attending third grade at the Benjamin Wright Raymond Public School (100% minority students), located in a mostly low socioeconomic neighborhood in the Chicago, Illinois area. Half of the subjects had attended preschool. Data on students' reading scores and achievement levels were gathered from students' 1994 Iowa Tests of Basic Skills. Results indicated that students at the third-grade level who attended preschool achieved higher reading scores than children who did not attend preschool. Findings suggest that reading achievement gains made by preschoolers are retained through the third grade. (Contains 14 references and one table of data.) (RS)

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ED 373 310

The Effect of Preschool Attendance on Reading Achievement of Third Graders

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Versie A. Jones

Do children who have attended preschool really read better than children that have not attended preschool by the time they reach the third grade level? Logically, it seems that is the question education policy-makers, politician and educators would want quantifiably answered before making long-term and massive investments in existing early childhood education program models.

In 1993, about two thirds of the nations children between the ages of three and five were enrolled in an early childhood education program such as Head Start and other preschool projects. In the Chicago area there are numerous preschools, educational day care centers and headstart programs in operation. Many of these programs make claims of attaining high achievement results in teaching children reading skills. However, there does not appear to be any conclusive evidence available which suggests that preschool attendees can read any better than children who never attended a preschool program. Over the past year, 721,288 children participated in Head Start programs nationwide at a cost of 1.1 billion dollars. Therefore, it is vital from an economic, social and political standpoint that research be conducted to verify whether or not preschool programs really do promote sustained higher reading achievement, at least through the third grade level.

At stake is the issue of how to best spend taxpayer dollars to promote early childhood education goals in the United States. Armed with factual and corroborating research data, policy-makers, educators and preschool operators will be able to make better decisions about future spending of millions of taxpayer dollars on preschool education programs. Equally important is that quantifiable research data would afford an opportunity for positive and evolutionary directions to take place in the field of early childhood education.

The concept of preschool or Head Start as we know it in the United States today was conceived and pioneered by Friedrich Wilhelm Froebel in Germany, during the early 1800's. He called his early childhood development programs kindergartens, from which originated our present day public school affiliated kindergartens. Froebel (Braun-Edwards, 1972) was committed to play as a means of instruction for young children. He designed various objects made of

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wood to be handled and examined by the children in order to lead them to an orderly sense of reality and planned activities to train the hand, eye and mind. However, much has changed since the first Froebelian kindergarten was founded in the United States in 1855 at Watertown, Wisconsin and the advent of the first Head Start programs during 1965. Present day preschool and early childhood education activities have evolved to focus on more than play and exploration through the use of manipulatives, art and music. In contrast to Froebel's kindergartens, today's preschools provide children with literacy experiences such as listening to and reading stories. Sometimes repetitive instructional routines are used as a way of teaching in some preschool programs. Today, there is a much greater emphasis placed on providing children with more academic stimulation. The cost for preschool education has also dramatic changed.

The term "preschool" is used in reference to Head Start programs, day care/learning centers, and nursery schools. Most preschools, excluding headstart, are privately owned for profit organizations.

Currently, there is broad debate about the importance of preparing children to meet the social and academic challenges of school expectations. One school of thought is that attendance in preschool programs is the solution to the development of lasting reading skills. On the other hand, there are those who think that preschool programs are simply a waste of money because any reading skills gained by children who attend them disappear within one to three years after the children start public school.

Campbell, et al., (1992) at the University of North Carolina at Chapel Hill conducted a 21 year longitudinal study of the effects of early childhood education on preschoolers' intellectual development and academic performance. The results were reported to show reading achievement gains can last even into students' teen years and beyond. Specifically, the study completed 15 years of follow-up data on 111 children in a special early intervention program. Each child was engaged in the study from infancy through age 15. All of the children were born between 1972 to 1977.

Campbell observed that their study program raised children's test performance 16. standard deviation IQ points at age 3; left a four-point IQ improvement at age 15; improved both math and reading scores; and reduced the need for special education classes and grade retention.

Researchers who participated in the Chapel Hill study argued that what took place in their early intervention program was really no different from what any child who had a high quality day care program receives. They suggested that their program could be replicated at any good day care center or good home. As a result of

the findings in their study, the researchers recommended that preschool children be given more cognitive stimulation with developmentally appropriate materials and techniques. An enriching preschool home environment is also considered an important factor to children's academic success and achievement retention.

Ramsey, (1994) a University of Alabama psychologist, asserted that intelligence is not immutable. He pointed to his own long-term study of children at Chapel Hill, North Carolina, known as the Abecedarian Experiment, which provided educational and nutritional help for children and their parents from birth through at least age five. At age 12, some four years after they were no longer in the program, the children continued to outscore control groups in reading and on IQ tests. The view that mental capacity is fixed has zero scientific support, Ramsey maintained. However, his study is one of the f[illegible] to find lasting intellectual effects. Ramsey expressed belief that because the Abecedarian Experiment began earlier than most, lasted longer and provided more intensive services than other similar programs, its results may have been affected. He also, conceded that the achievement successes attained by children in his research may be in part due to the prenatal care provided by the program. He further speculated that the children's high achievement and retention may be attributable to an important biological advantage, affecting their mental development.

The United States Department of Health and Human Services, HHS (1985) conducted what is deemed the most comprehensive study ever done on Head Start, a synthesis of some 210 research reports. Findings from the composite data revealed few lasting benefits for headstart children. Although children enrolled in Headstart enjoyed significant immediate gains, the study noted that in the long run, cognitive and socio-emotional test scores of former headstart students do not remain superior to those of children who did not attend Headstart. However, the report did find a small subset of studies showing that former headstarters are less likely to be held back a grade or placed in special education classes.

The High/Scope Foundation (1989) conducted perhaps the best-known long-term study of preschool children's academic and social success. Starting in 1962, the study followed 123 children from poor homes in Ypsilanti, Michigan. The children were randomly assigned to a group that attended the Perry preschool, a researcher designed preschool program and a group that did not. In the preschool group, children received two years of preschool instruction, weekly home visits and social services.

At age 19, the study found that the preschool graduates were more likely to be employed and less likely to have criminal records than the control group. Some other aspects about the Perry program is

that it spent $4,818 per child per year, almost twice what Headstart spent in 1990. Virtually all of the Perry teachers had postgraduate degrees in early childhood education. Also, the teachers at Perry taught just five students each. Those factors are in stark contrast to the ones found in most head start programs. Also, it is perhaps a major reason for the variance in results achieved by regular head start programs versus the Perry preschool program. Obviously, here the argument shifted from the children's gains in reading to one that raises the question of what cost do we pay for their reading achievement.

Epstein, (1989) cited a study of 200 preschoolers in Michigan, California and New York, which found that children in classes with High/Scope-trained teachers out scored comparison children on many measures of social interaction, were more independent and tended to have better language skills. According to Epstein, 40 percent of the programs sampled were Head Start programs. The High/Scope method of instruction emphasizes letting children initiate exploratory activities rather than having the teacher spend most of the day imparting academic information or directions. The long-term successes of Perry preschool graduates has a lot to do with their learning to take responsibility for their own learning, noted Epstein.

Slavin, et al., (1989) at the John Hopkins University in Baltimore, at the Center for Research on effective schooling for disadvantaged students have developed the "success for all" program for preschool through the third grade. It emphasized extra help in reading, family support and teacher training. So far, the results are encouraging: most of the third graders are reading at grade level, and many over. Helping and getting parents involved is a key ingredient to the students success, Slavin asserted.

Fuerst, (1974) Chicago Loyola University School of Social Work, performed a longitudinal study of the lives of 684 children most of whom attended two years of preschool. In a summary of his findings, fuerst noted that while the children in his study showed remarkable early achievement in reading, they had lost most of their reading gains by the time they reached the high school level. In fact, his study revealed that 62 percent of them graduated from high school. However, he found that result was better than the 49 percent graduation rate among a control group of 676 non-center students from the same background, but well under the national average of about 80 percent for 19 year olders. Fuerst concluded that his study gives weight to a growing sentiment among early childhood educators that inner-city kids need much more than a year or two of preschool. He warned that over estimating headstart is not fair to the children.

Larsen, et al., (1987) conducted a longitudinal study which

examined the effects of preschool attendance upon school achievement scores and out-of-school activities for 196 second and third grade children, 125 of whom had attended a university-affiliated preschool and 71 of whom were non-attenders. They were from low-risk educationally disadvantaged families. Males who had attended preschool scored significantly higher on reading vocabulary, total reading, spelling, total language, and total battery components of the achievement measures than did males who had not attended preschool. A preschool effect upon achievement scores for females from these age groups was not found. Contrary to assumptions that home and family experiences were sufficient to enhance development and learning for low-risk children, the findings of this study seem to indicate that, for males preschool attendance does have a significant effect on later school achievement scores, especially in language-related areas.

In summary, the overall findings seem to indicate that while some social and reading skills may be gained by attendance in preschool programs, there is also evidence which suggests that reading skills gained by children who attended preschool programs are lost by the time they reach the third grade. Because of these conflicting results, it can not be conclusively stated that preschool attendance has a positive effect on reading achievement for third graders. However, the available literature does serve as a foundation on which to build.

Procedures

The population for this study included 58 third grade students. The students attend the Benjamin Wright Raymond Public School, which is located in a mostly low socioeconomic neighborhood in the Chicago area. The population included 100 percent "minority" students.

From the 58 third grade students, school records showed 38 students attended preschool while 20 students did not attend preschool. Twenty preschool attendees and twenty non-preschool attendees were the sample.

Data on students' reading scores and achievement levels were gathered from students' 1994 Iowa Test of Basic Skills (ITBS). Students were identified as having attended or not attended preschool from their school records. The posttest control group design was employed.

Iowa Test of Basic Skills; 1994 edition; levels 9-14, form 7 and 8. The within grade Kuder-Richardson twenty reliabilities for the eleven subtests and total scores are high, generally greater than .85, with many exceeding .90. The K-R twenty reliability of the

composite score for each level of the test is .98. The intercorrelations between subtests are lower than correlations between total scores, with the former ranging from the mid .50s to the mid .70 to .85 range. Approximately 35 to 50 percent of the variance between any two of the vocabulary, reading, language, study skill or mathematics total score is shared in the 50 to 70 percent range.

The results will be computed for the mean and standard deviations. The s test will be determined at .05 level of confidence to find out if there is a statistically significant variance between the mean reading scores.

Findings of the Study

The samples for the study included third grade students of the Benjamin Wright Raymond Elementary School. Each spring students take the Iowa Test of Basic Skills (ITBS). From the third graders two groups were randomly selected. School records were used to identify third graders who had attended preschool and those who had not attended preschool. Results from the 1994 Iowa reading subtest(s) were used as a basis for the study. A t test ($p > .05$) for independent samples was done of these two sets of reading scores to determine if there was a statistically significant difference in reading achievement levels. Table 1 Summarizes the statistical analysis.

Table 1

Mean, Standard Deviation, and t Tests for the Preschool Group and Non-preschool Group for Reading Achievement Scores

Reading (N=40)

Preschool Group	Non-preschool Group	t Score
M 60	M 57	t=18.5
SD 0.719	SD 0.223	
n = 20	n = 20	

df = 38 $p > .05$

Examination of the 1994 ITBS reading scores for the preschool group

and the non-preschool group indicated a significant difference in reading achievement levels between the two third grade groups. This finding presented in Table 1 permits the conclusion that children at the third grade level who attended preschool achieved higher reading scores than children who did not attend preschool.

Further examination of the reading test data reveals a mean score of 60 for the preschool group and a mean score of 57 for the non-preschool group was achieved. Overall, the data leads to the rejection of the null hypothesis of the study.

The findings of this study appear to be related to results revealed in a longitudinal study conducted by Larsen, et al., (1987). His study indicated that preschool attendance significantly increased reading achievement scores. Also, Slavin, et al., (1989) found encouraging reading achievement results among third graders who had attended preschool. In summary, his study showed that third grade former preschoolers achieved at or above grade level scores in reading.

In this study more follow-up research that encompasses a broader sampling would be beneficial. However, the results in the study are not surprising in that the review of literature strongly suggests that reading skills gained by children who attended preschool are retained through the third grade. As noted by Campbell, (1992) reading achievement gains by preschoolers can last even into their teen years. Still, it is essential that the effects of preschool programs on children's academic and social development receive continual scientific monitoring.

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